



Water and Wastewater Policy Group

South Overlea Drive Septic Survey

SURVEY REPORT

April 20, 2017

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BACKGROUND

Under Resolution No. 18-423 (March 8, 2016), the County Council established sewer service policies for the Glen Hills Study Area. These policies included an option for septic surveys for multiple lots to recommend whether the use of onsite septic systems or public sewer service was the best option for the survey area. If the survey supported the use of public sewer service, all or part of the survey area could be recommended as a Special Sewer Service Area. Along with this designation, sewer category changes would be recommended, as needed, to allow for the provision of public sewer service. Approval of a survey area as a special sewer service area requires consideration and action by the County Council.

SEPTIC SURVEY PROCESS

Property Owner Requests

In July and August 2016, DEP received requests from nine owners of properties located along Overlea Drive in the Potomac Highlands subdivision in the Glen Hills Study area. Each property owner requested that DEP conduct a septic system survey of their neighborhood. These owners cited several common concerns about existing and future septic system service, including:

- Aging, pre-1975 septic systems
- Limited area on their lots for future septic system repair or replacement due to streams buffers, wetlands, flood plains, and existing well buffers.
- Increased frequency of septic tank pump-outs to maintain the existing system.
- Possible seepage of inadequately-treated septic effluent into shallow ground water from seepage pits.
- Possible loss of forested areas due to repair or replacement septic systems.

Septic Survey Area

On October 21, 2016, DEP established the South Overlea Drive Septic Survey area (see Figure R1 and Table R1). The survey area included twenty-four properties, which included all nine properties owned by the original applicants. The extent of the survey area was based in part on:

- Review Areas and conceptual sewer main extensions included in the Glen Hills Area Sanitary Study (2012).
- Proximity to properties of owners01 requesting a survey.
- Properties of similar size and age.

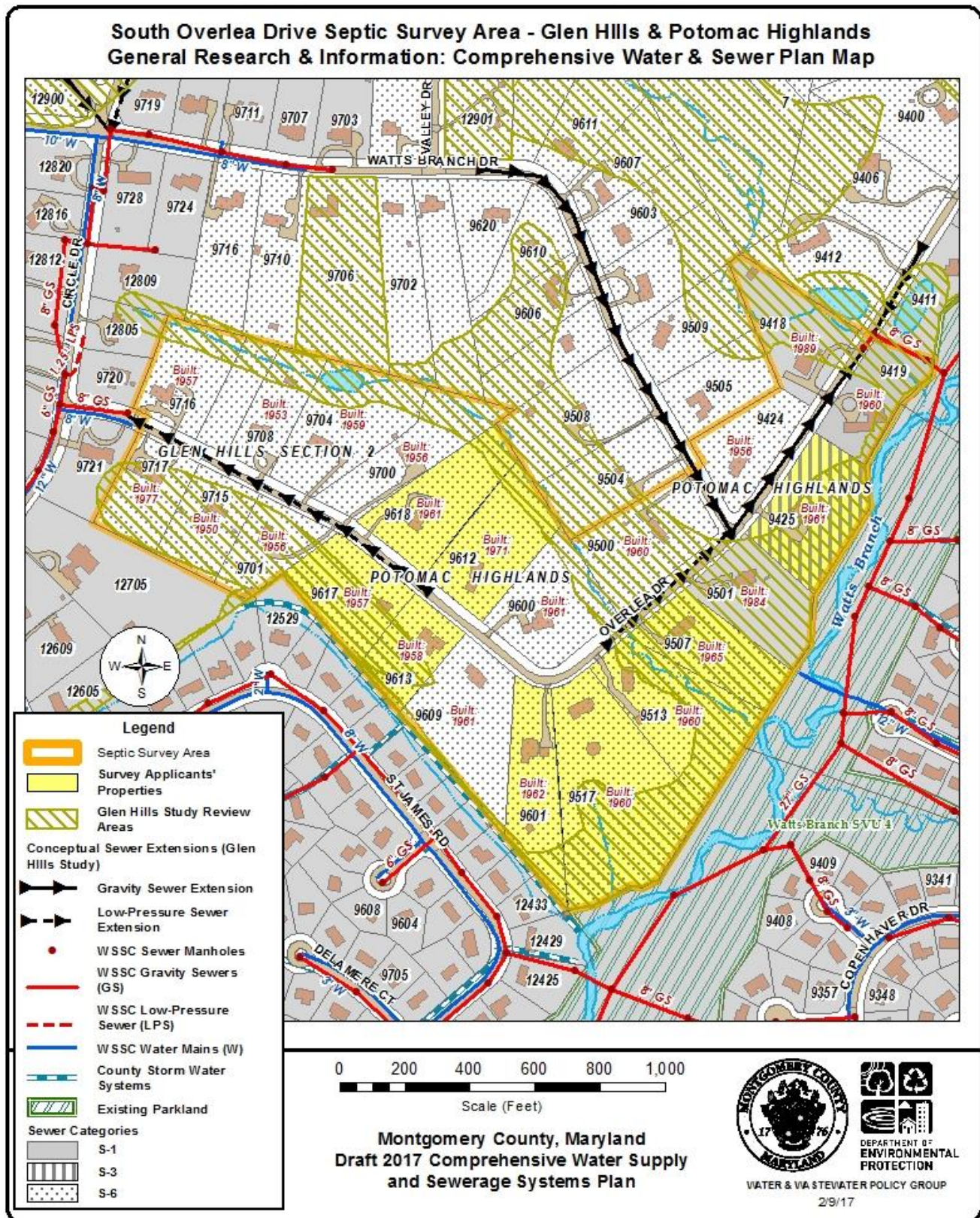
A summary of each applicant's request is provided in the attached Technical Appendix, Table A1, pages A1 - A2.

On November 30, 2016, DEP mailed a written notice about the septic survey to all owners of properties included within the survey area. The notice provided background and outlined the subsequent steps involved in the survey process and provided a general timeline for those steps. The letter also requested that property owners, other than the nine owners who had requested the survey, contact DEP staff if they had any questions and to provide DEP with more direct contact information. Three additional property owners responded to the notice letter, expressing an interest in participating.

| South Overlea Drive Septic Survey Area – Table R1: Survey Area Properties | | | |
|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| Table Legend | | Properties of Owners Requesting a Septic Survey | |
| Properties Added to the Survey Area by DEP | | | |
| Applicants/Owners | Property Information* | Applicants/Owners | Property Information* |
| [1] Ian & Natalie Beiser 9418 Overlea Dr. (Owners since 2011) | Built: 1989. 1.92 ac. Lot 6, Block E, Potomac Highlands | [13] Kevin King 9612 Overlea Dr. (Owner since 2000) | Built: 1971. 2.23 ac. Lot 5, Block F, Potomac Highlands |
| [2] Phyllis Newfield 9419 Overlea Dr. (Owner prior to 1996) | Built: 1960. 1.55 ac. Lot 26, Block C, Potomac Highlands | [14] Joshua Charles & Dixon Charles 9613 Overlea Dr. (Owners prior to 2011) | Built: 1958. 1.35 ac. Lot 38, Block C, Potomac Highlands |
| [3] Thomas Gabrielle & Karine Garnier 9424 Watts Branch Dr. (Owners since 2014) | Built: 1956. 1.54 ac. Lot 7, Block E, Potomac Highlands | [15] Bill & Elizabeth Wainger 9617 Overlea Dr. (Owners since 2014) | Built: 1957. 1.81 ac. Lot 39, Block C, Potomac Highlands |
| [4] Maryam Mamdouhi 9425 Overlea Dr. (Owner prior to 2002) | Built: 1961. 2.43 ac. Lot 27, Block E, Potomac Highlands | [16] John & Rosemary Drake 9618 Overlea Dr. (No ownership data) | Built: 1961. 2.22 ac. Lot 6, Block F, Potomac Highlands |
| [5] Carlos Jr. & Elizabeth Silva 9500 Watts Branch Dr. (Owners since 2016) | Built: 1960. 2.28 ac. Lot 3, Block F, Potomac Highlands | [17] Marion Peake Tr 9700 Overlea Dr. (Owner prior to 1989) | Built: 1956. 2.03 ac. Pt. Lot 7, Block 6, Glen Hills Sect. 2 |
| [6] Eric & Laura Henmueller 9501 Overlea Dr. (Owners prior to 2008) | Built: 1984. 2.02 ac. Lot 28, Block C, Potomac Highlands | [18] John & M.E. Stopher 9701 Overlea Dr. (Owners since 1995) | Built: 1956. 1.39 ac. Lot 4, Block 7, Glen Hills Sect. 2 |
| [7] Judy Scott Feldman 9507 Overlea Dr. (Owner since 1993) | Built: 1965. 0.91 ac. Lot 29, Block C, Potomac Highlands | [19] June Gloeckler Trust 9704 Overlea Dr. (Owner prior to 2002) | Built: 1969. 2.49 ac. Lot 6, Block 6, Glen Hills Sect. 2 |
| [8] John & Mary Yakaitis 9513 Overlea Dr. (Owners prior to 1999) | Built: 1960. .2.98 ac. Lot 30, Block C, Potomac Highlands | [20] Michael & Garefo Caggiano 9708 Overlea Dr. (Owners since 2006) | Built: 1953. 1.31 ac. Lot 5, Block 6, Glen Hills Sect. 2 |
| [9] Shengting Pan 9517 Overlea Dr. (Owner since 2012) | Built: 1960. .5.04 ac. Lot 31, Block C, Potomac Highlands | [21] Richard Carroll & Tiffin Shewmake 9715 Overlea Dr. (Owners since 2009) | Built: 1950. 1.41 ac. Lot 3, Block 7, Glen Hills Sect. 2 |
| [10] Lawrence Ng & Lisa Liem 9600 Overlea Dr. (Owners since 2009) | Built: 1961. 2.21 ac, Lot 4, Block F, PH | [22] Yujin & Yinghua Wang 9700 Block, Overlea Dr. (Owners since 2002) | Unimproved. 0.82 ac. Lot P4, Block 6, Glen Hills Sect. 2 |
| [11] Charles Family Trust 9601 Overlea Dr. (Owner since 2016) | Built: 1961. 2.06 ac. Lot 36, Block C, Potomac Highlands | [23] Robert & I. Salcido 9716 Overlea Dr. (Owners since 1999) | Built: 1957. 1.71 ac. Lot 3, Block 6, Glen Hills Sect. 2 |
| [12] Son Chang & Pi Ye 9609 Overlea Dr. (Owners since 2002) | Built: 1961. 2.66 ac. Lot 37, Block C, PH | [24] Emma James 9717 Overlea Dr. (Owner since 1976) | Built: 1977. 1.52 ac. Lot 2, Block 7, Glen Hills Sect. 2 |
| *All properties are: • Zoned RE-1 • Located within the Travilah Planning Area • Located within the Watts Branch watershed. | | | |

Note that in the following discussions, a “repair system” refers to a single new drainfield with no reserve drainfield areas identified. A “replacement system” refers to a new septic system that satisfies all current regulatory requirements, including the dedication of an area for two reserve drainfields. To repair or replace a septic system, owners need sufficient suitable area on their lot to test. A full replacement septic system will require a minimum of 10,000 square feet for initial and reserve drainfields, or approximately 0.23 acre. A single repair system would require less area, at least 0.08 acre, depending on the type of system needed.

Figure R1: Survey Area Properties

Site Visits

Between November 2016 and January 2017, DEP and DPS staff conducted site visits to the properties in the survey area. The observations generated from these site visits are included in Table A2: Existing Conditions

(pages A3 – A5 in the attached Technical Appendix). Site visits proved valuable by allowing first-hand evaluation of onsite conditions such as soil surface conditions, access to potential septic repair or replacement areas, and forested areas.

Public Meeting

On the evening of January 19, 2017, DEP held an informational meeting with a total of eleven property owners from the survey area and representatives of local civic groups. DEP staff presented preliminary results from research conducted to date and fielded inquiries and comments from those attending the meeting, which included new and corrected information about the survey area.

EXISTING CONDITIONS

The survey area includes parts of two existing subdivisions, Potomac Highlands and Glen Hills Section 2 (see Figure R1). The eight lots in Glen Hills Section 2 were established first, with the majority of houses constructed between 1950 and 1957. Two houses were built later and one lot is unimproved. Thirteen of the sixteen lots in Potomac Highlands have houses built between 1956 and 1961. Excluding the unimproved property, lot sizes in the survey area range from 0.91 acre to 5.04 acres. (See Table R1 on page R2.) This range is consistent with an older neighborhood zoned for one house per acre density and primarily dependent on septic systems. Under the RE-1 Zone, the minimum lot size is 0.92 acre, which is typically the smallest lot size that will allow for both a well and a septic system.

Table R2, below, identifies the different types of wastewater disposal systems in use in the survey area. Nineteen of the twenty-three improved properties use septic systems, with all of those except one built before 1975. Table A2 (pages A3 – A5) in the attached Technical Appendix provides additional information from DPS permit records concerning the existing septic systems.

| South Overlea Drive Septic Survey Area – Table R2: Survey Area Properties & Wastewater Disposal Systems | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------|--------------|------------|------------------|
| Total Lots | | | | | 24 |
| Improved Lots | | | | | 23 |
| Unimproved Lots | | | | | 1 |
| Type of System | Built | No. | Built | No. | Total No. |
| Public Sewer | | | | | 4 |
| Septic Systems | | | | | 19 |
| Seepage Pits | Pre-1975 ^A | 9 | Post-1975 | 0 | 9 |
| Stone Trenches | Pre-1975 | 6 | Post-1975 | 1 | 7 |
| Other | Pre-1975 | 1 | Post-1975 | 0 | 1 ^B |
| Unknown ^C | | | | | 2 |
| ^A Two properties with seepage pits have permitted locations for replacement stone trench systems. Neither has been installed to date. | | | | | |
| ^B One system (using two pre-1975 seepage pits) has been augmented by modern shallow trenches. The seepage pits are still in use. | | | | | |
| ^C No septic system permits records were found. | | | | | |

Four lots in the survey area have public sewer service:

- #9418 and #9501 had public sewer service provided prior to the service policies recommended in the 2002 Potomac Subregion Master Plan.
- #9717 and #9718 were determined to have public sewer service although both properties are currently designated as sewer category S-6. WSSC's records show that these two lots were also provided prior to the service policies recommended in the 2002 master plan. Corrections from to sewer category S-6 to S-1 for these two lots are recommended that DEP will initiate as utility service errors.

Two additional lots are approved for public sewer service:

- #9419 received approval for public sewer service due to a notification from DPS of a failed septic system. On March 22, 2016, DEP requested that WSSC proceed with the provision of public sewer

service to the property. WSSC issued a sewer connection permit for the property on November 1, 2016. DEP acted to formally approve sewer category S-1 on December 28, 2016, under administrative action AD 2016-2. The lot is designated as category S-1; however, DEP has not received a notice that the lot is connected to public service.

- #9425 received approval for public sewer service on March 7, 2000, under Council resolution no. 14-451, prior to the adoption of the 2002 master plan. The lot is designated as sewer category S-3 and continues to use an existing septic system pending the extension of public sewer service.

DPS information showed that three properties, # 9419, #9517 and #9715, had no potential for future repair or replacement septic systems.

Discussions with M-NCPPC showed that the existing, unimproved lot located between 9708 and 9718 Overlea Dr. does not have sufficient size to become a building lot under the existing RE-1 Zone.

The attached Technical Appendix provides additional information on the survey area's existing conditions, including well and septic system locations and information from for the Glen Hills Area Sanitary Study. (See Figure A1, page A6, and Table A2, pages A3 – A5.)

SURVEY RESULTS

Conditions observed from site visits to the survey area properties, and information compiled from DEP's mapping analysis revealed potential constraints more extensive than the Review Areas established in the Glen Hills Area Sanitary Study as described in the following paragraphs.

Working from the County's onsite systems regulations, the following constraints for septic system permitting were established in the survey area:

- Designated floodplains.
- 10-foot setbacks from storm drains and from existing and abandoned onsite wastewater systems (seepage pit and stone trench systems).
- 20-foot setbacks from buildings.
- 25-foot setbacks from area with steep slopes (12.5% grade as used in the Glen Hills Study).
- 100-foot setbacks from streams and wetlands and from water wells.

In addition, soils identified by the U.S. Soil Conservation Service as having severe restrictions for septic system use were also considered as potentially constrained, the same as for the Glen Hills Area Sanitary Study.

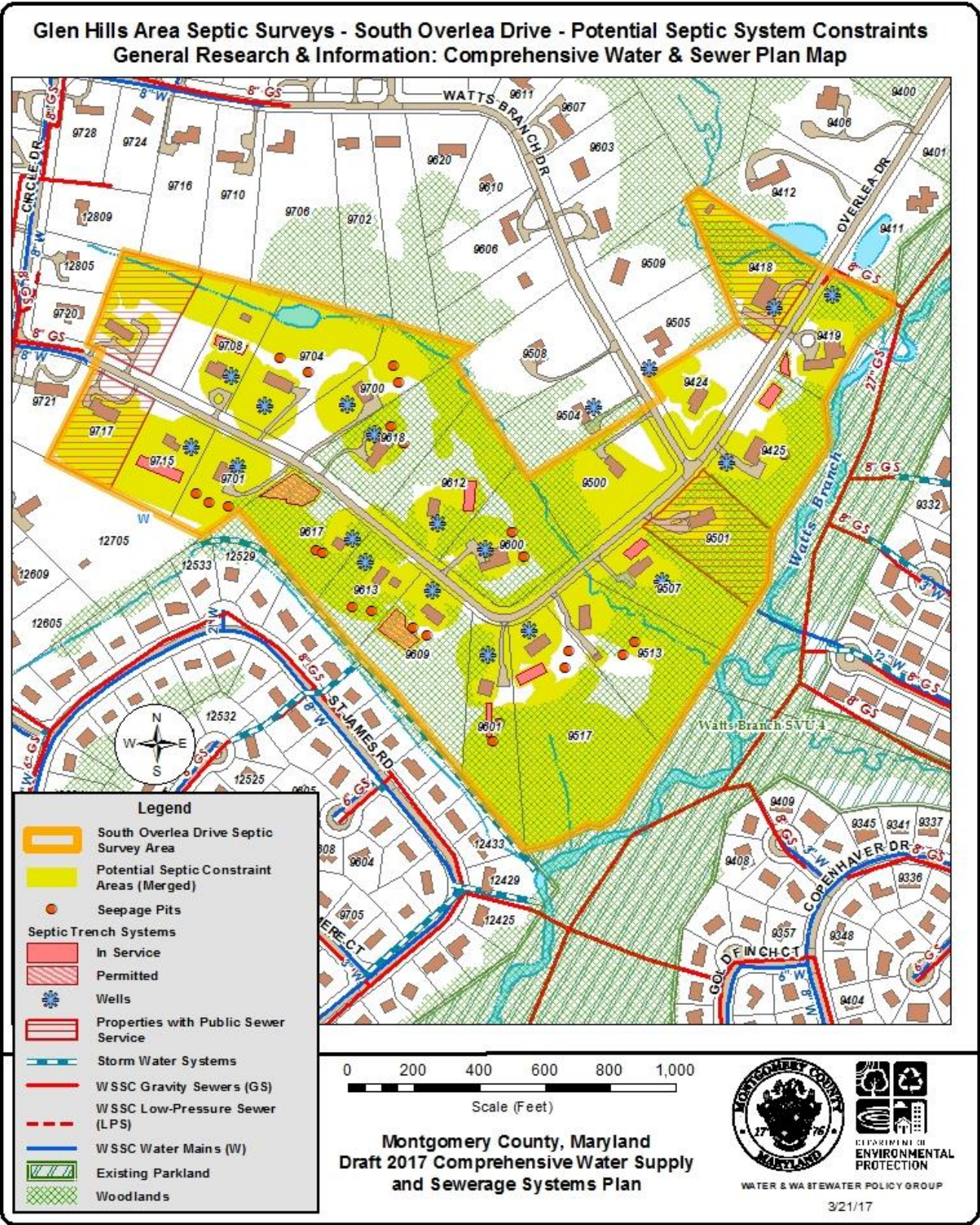
Forested areas within the survey area were also considered as potential, but not absolute constraints to septic system permitting. Several survey applicants raised concerns about the loss of forested areas in order to repair or replace septic systems. The construction of septic systems may result in tree loss, which is unavoidable at times. Two lots have areas designated for replacement septic systems (including reserve areas) permitted by DPS, although these systems have not been installed. In both cases, the replacement systems are permitted for forested areas on each lot.

Some potential constraint areas overlap. For example: Soils with severe septic system restrictions are often found within floodplains and stream buffers; well setbacks can overlap with areas of steep slopes and with building setbacks.

Public water service is generally not available in the survey area due to the lack of existing mains (see Figure 1, page 3). All but four properties in the survey area currently use a well for their water supply and are currently designated as water category W-3 (see Table 3). The extension of public water service here could remove existing wells and their associated 100-foot setbacks, potentially allowing for additional area for septic system testing.

Figure 2 on page 6 presents the merged potential constrained areas, similar to the Reserve Areas presented in the Glen Hills Area Sanitary Survey. The attached Technical Appendix provides additional details about the survey results for each property. (See Figure A2, page A10, and Table A3, pages A7 – A9.)

Figure R2: Potential Septic System Constraint Areas



Potential septic system constraints affected every property in the survey area to some degree. DEP considered together the areas potentially constrained for septic system use and the areas of forest cover in the survey area. As shown on the preceding figure (page 6), the majority of lots in the survey area have little or no septic repair or replacement area, particularly in the Potomac Highlands area.

RECOMMENDATIONS

The following sixteen properties are recommended for inclusion in the Special Sewer Service Area. Of these, thirteen will need sewer category changes from S-6 to S-3, three others have S-1 or S-3. Public sewer service for all thirteen lots recommended for category S-3 will be restricted to a single sewer hookup only. (See Table R3, page R8, and Figure R3, page R9.)

- #9419, #9517, and #9715 have no available septic repair or replacement area, according to DPS.
- #9425, #9500, #9507, #9513, #9613, #9618, and #9701 have potential septic constraints that combined indicate that the long-term use of onsite septic systems is questionable. Any possible repair systems for these lots will very likely be the last feasible septic systems on the property. A repair septic system could serve a property for several decades. After that however, the owners' options will likely be for either public sewer service or a sewage holding tank.
- #9425 is already approved for public sewer service and designated as sewer category S-3.
- #9609 and #9617, despite apparent constraints for septic system use, have permits for full replacement septic systems from DPS, although neither of these systems have been installed. Areas established for these replacement systems will require the removal of existing forested areas on these lots.
- #9600 and #9612 have some potential for repair or replacement systems according to DPS. However, construction of those systems will most likely need to occur in forested areas on these lots.
- #9501, although served by public sewer, is recommended for inclusion due to its proximity to adjacent and nearby properties recommended for inclusion.

Possible sewer extension alignments are shown on Figure 3. The main extensions shown are based largely on the conceptual sewer main extensions presented in the Glen Hills Area Sanitary Study and would require construction of both gravity sewers and low-pressure sewers. Properties connecting to low-pressure sewers would require an onsite grinder pump for service. Table A4 (pages A12 – A14 in the attached Technical Appendix) provides estimated sewer extension lengths required for sewer service for each property. As noted in the previous sanitary study, neither the County nor WSSC program new sewer main extensions. Property owners must request new main extensions through WSSC. Under WSSC's extension policies, all extension, connection, and onsite costs are paid by the extension applicants.

As shown in Table 3, new sewer service recommended for properties in the special sewer service area will be limited to one sewer hookup for each property. For new sewer service allowed under both the special sewer service area and abutting mains provisions in the new Glen Hills sewer service policy, limitations included allow for only one sewer hookup for each lot served. Further, the policy specifies that new sewer hookups cannot be used to support subdivision or resubdivision of existing properties to create new building lots.

The following eight properties are not recommended for inclusion in the special sewer service area:

- #9418, #9717, and #9718 have existing public sewer service.
- #9424 has area available without apparent constraints to allow for a full replacement septic system.
- #9700, #9704, and #9708 have, potential for repair or replacement septic systems, according to DPS. However, this may require either the relocation of existing wells or the provision of public water service.
- Pt. Lot 4, the one unimproved property in the survey area, located between #9708 and #9718, lacks sufficient area to qualify as a building lot under the existing RE-1 Zone.

Four of the eight preceding properties may become eligible for public sewer service in the future if new sewer main construction in the area allows them to qualify under the abutting mains policy. The approval and provision of public sewer service for Pt. Lot 4 is irrelevant because the property cannot be used as a building lot.

Implementation of these recommendations will require map amendments to the Water and Sewer Plan. In addition to the inclusion of specific properties within the special sewer service area, WSCCR 17-TRV-07G proposes the sewer category changes identified in Table R3.

| South Overlea Drive Septic Survey Area – Table R3: Recommendations Summary for WSCCR 17-TRV-07G | | | |
|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Applicants/Owners [1 – 12] Location & Property Information Existing Service Area Categories | Special Sewer Service Area & Sewer Category Recommendations ^A | Applicants/Owners [13 – 24] Location & Property Information Existing Service Area Categories | Special Sewer Service Area & Sewer Category Recommendations ^A |
| [1] Ian & Natalie Beiser 9418 Overlea Dr. (acct. no. 00088393) Lot 6, Block E, Potomac Highlands W-3 & S-1 | EXCLUDE: Maintain S-1. | [13] Kevin King ^B 9612 Overlea Dr. (acct. no. 00088837) Lot 5, Block F, Potomac Highlands W-3 & S-6 | INCLUDE: Change S-6 to S-3, one hookup only for special sewer service area. |
| [2] Phyllis Newfield 9419 Overlea Dr. (acct. no. 00088234) Lot 26, Block C, Potomac Highlands W-3 & S-1 (health problem) | INCLUDE: Maintain S-1 (one hookup only, for failed septic system). | [14] Joshua Charles & Dixon Charles ^B 9613 Overlea Dr. (acct. no. 00087981) Lot 38, Block C, Potomac Highlands W-3 & S-6 | INCLUDE: Change S-6 to S-3, one hookup only for special sewer service area. |
| [3] Thomas Gabrielle & Karine Garnier 9424 Overlea Dr. (acct. no. 00088360) Lot 7, Block E, Potomac Highlands W-3 & S-6 | EXCLUDE: Maintain S-6. | [15] Bill & Elizabeth Wainger ^B 9617 Overlea Dr. (acct. no. 00088017) Lot 39, Block C, Potomac Highlands W-3 & S-6 | INCLUDE: Change S-6 to S-3, one hookup only for special sewer service area. |
| [4] Maryam Mamdouhi ^B 9425 Overlea Dr. (acct. no. 00088267) Lot 27, Block E, Potomac Highlands W-3 & S-3 | INCLUDE: Maintain S-3. | [16] John & Rosemary Drake ^B 9618 Overlea Dr. (acct. no. 00088154) Lot 6, Block F, Potomac Highlands W-3 & S-6 | INCLUDE: Change S-6 to S-3, one hookup only for special sewer service area. |
| [5] Carlos Jr. & Elizabeth Silva 9500 Watts Branch Dr. (acct. no. 00088187) Lot 3, Block F, Potomac Highlands W-3 & S-6 | INCLUDE: Change S-6 to S-3, one hookup only for special sewer service area. | [17] Marion Peake Tr 9700 Overlea Dr. (acct. no. 00078383) Lot P7, Block 6, Glen Hills Sect. 2 W-3 & S-6 | EXCLUDE: Maintain S-6. |
| [6] Eric & Laura Henmueller 9501 Overlea Dr. (acct. no. 00088085) Lot 28, Block C, Potomac Highlands W-1 & S-1 | INCLUDE: Maintain S-1. | [18] John & M.E. Stopher 9701 Overlea Dr. (acct. no. 00078474) Lot 4, Block 7, Glen Hills Sect. 2 W-3 & S-6 | INCLUDE: Change S-6 to S-3, one hookup only for special sewer service area. |
| [7] Judy Scott Feldman ^B 9507 Overlea Dr. (acct. no. 00088781) Lot 29, Block C, Potomac Highlands W-3 & S-6 | INCLUDE: Change S-6 to S-3, one hookup only for special sewer service area. | [19] June Gloeckler Trust 9704 Overlea Dr. (acct. no. 00077173) Lot 6, Block 6, Glen Hills Sec. 2 W-3 & S-6 | EXCLUDE: Maintain S-6. |
| [8] John & Mary Yakaitis ^{B C} 9513 Overlea Dr. (acct. no. 00088201) Lot 30, Block C, Potomac Highlands W-3 & S-6 | INCLUDE: Change S-6 to S-3, one hookup only for special sewer service area. | [20] Michael & Garefo Caggiano 9708 Overlea Dr. (acct. no. 00079092) Lot 5, Block 6, Glen Hills Sect. 2 W-3 & S-6 | EXCLUDE: Maintain S-6. |
| [9] Shengting Pan ^B 9517 Overlea Dr. (acct. no. 00088815) Lot 31, Block C, Potomac Highlands W-3 & S-6 | INCLUDE: Change S-6 to S-3, one hookup only for special sewer service area. | [21] Richard Carroll & Tiffin Shewmake 9715 Overlea Dr. (acct. no. 00076486) Lot 3, Block 7, Glen Hills Sec. 2 W-3 & S-6 | INCLUDE: Change S-6 to S-3, one hookup only for special sewer service area. |
| [10] Lawrence Ng & Lisa Liem 9600 Overlea Dr. (acct. no. 00088006) Lot 4, Block F, Potomac Highlands W-3 & S-6 | INCLUDE: Change S-6 to S-3, one hookup only for special sewer service area. | [22] Yujin & Yinghua Wang 9700 Block, Overlea Dr. (acct. no. 00079104) Lot P4, Block 6, Glen Hills Sec. 2 W-3 & S-6 | EXCLUDE: Maintain S-6. |
| [11] Charles Family Trust ^B 9601 Overlea Dr. (acct. no. 00088644) Lot 36, Block C, Potomac Highlands W-3 & S-6 | INCLUDE: Change S-6 to S-3, one hookup only for special sewer service area. | [23] Robert & I. Salcido 9716 Overlea Dr. (acct. no. 00077993) Lot 3, Block 6, Glen Hills Sec. 2 W-1 & S-6 | EXCLUDE: Correct S-6 to S-1, utility service error. |
| [12] Son Chang & Pi Ye 9609 Overlea Dr. (acct. no. 00088600) Lot 37, Block C, Potomac Highlands W-3 & S-6 | INCLUDE: Change S-6 to S-3, one hookup only for special sewer service area | [24] Emma James 9717 Overlea Dr. (acct. no. 00078485) Lot 2, Block 7, Glen Hills Sec. 2 W-1 & S-6 | EXCLUDE: Correct S-6 to S-1, utility service error. |
| ^A All properties retain existing W-1 or W-3 water service categories. | | ^B Nine original survey applicants. | |
| ^C Prior WSCCR 06A-TRV-12: S-3 denied under CR 16-237 (7/10/07) | | | |

Additional information concerning these recommendations is provided in the attached Technical Appendix, Table A4, pages A12 – A14.

Figure R3: Survey Area Recommendations

